

IN THE SPECIFICATION:

Please amend page 1, third full paragraph to read as follows:

B1
Reel-ups of web-like materials are used to reel a material passed in a continuous web into a tight reel, so that it can be moved to further processing. In reel-ups of a paper web, a continuous paper web passed from a paper machine, coating machine or corresponding paper processing apparatus is reeled around a reeling axle, i.e. reel spool, to form a reel. For example, in a so-called Pope-reeler, or in a center-drive assisted Pope-reeler, the finished paper is reeled around the reeling axle after the calender. The web is passed to the reel via a rotatably arranged reeling cylinder, against which the reeling axle is loaded by means of a loading device located in connection with the reeling axle.

Marked-up version of page 1, third full paragraph as amended.

Reel-ups of web-like materials are used to reel a material passed in a continuous web into a tight reel, so that it can be moved to further processing. In reel-ups of a paper web, a continuous paper web passed from a paper machine, coating machine or corresponding paper processing apparatus is reeled around a reeling axle, i.e. reel spool, to form a reel. For example, in a so-called Pope-reeler, or in a [centre-drive] center-drive assisted Pope-reeler, the finished paper is reeled around the reeling axle after the calender. The web is passed to the reel via a rotatably arranged reeling cylinder [arranged rotatable], against which the reeling axle is loaded by means of a loading device located in connection with the reeling axle.

Please amend page 7, third full paragraph bridging page 8 to read as follows:

B2

The reel-up according to a preferred embodiment of the invention comprises at least a reeling cylinder or the like as well as supporting structures arranged perpendicular to the cylinder, in the vicinity or the ends of the same, to support the reel spool and the reel that is being formed during and after the reeling. According to one embodiment of the invention, the supporting structures for supporting the reel spool and the reel that is being formed comprise an assembly of supporting devices which comprises at least a part of the bearer surface in the upper surface of the supporting structure or a corresponding surface on which the reel spool and the roll located thereon can roll, and at least a second part of a supporting surface, such as a slide or a corresponding arrangement. The supporting surface is movable with respect to the reeling cylinder from the operating vicinity of the reeling cylinder to the vicinity of the bearer surface or a corresponding surface are substantially on the same vertical level. According to the invention, the reel spool and the roll formed thereon are supported by means of a supporting surface movable during the reeling process, and during and/or after the reel change the complete reel can be rolled via the bearer surface or a corresponding surface.

Marked-up version of page 7, third full paragraph bridging page 8 , as amended.

The reel-up according to a preferred embodiment of the invention comprises at least a reeling cylinder or the like as well as supporting structures arranged perpendicular to the cylinder, in the vicinity or the ends of the same, to support the reel spool and the reel that is being formed during and after the reeling. According to one embodiment of the invention, the supporting structures for supporting the reel spool and the reel that is being formed comprise an assembly of supporting devices which comprises at least a part of the bearer surface in the upper surface of the supporting structure or a corresponding surface on which the reel spool and the roll located thereon can roll, and at least a second part of a supporting surface, such as a slide or a corresponding arrangement. The [, which] supporting surface is movable with respect to the reeling cylinder from the operating vicinity of the reeling cylinder to the vicinity of the bearer surface or a corresponding surface are substantially on the same vertical level. According to the invention, the reel spool and the roll formed thereon are supported by means of a supporting surface movable during the reeling process, and during and/or after the reel change the complete reel can be rolled via the bearer surface or a corresponding surface.

Please amend page 11, first full paragraph to read as follows:

With reference to Fig. 1, to attain the desired nip load (nip pressure), the reel R is loaded against the reeling cylinder C with a predetermined loading force F1 by affecting the reeling axle T1 by means of force devices VL11 and VL2, hereinafter also called an actuator VL1 or VL2. A loading force F2 is attained in a similar manner by means of force devices VL11 and VL12. The force devices VL1 and VL2, one on each side of the reel R in a similar manner as force devices VL11 and VL12, affect the bearing housings of the reeling axle T1 in a way known as such, which bearing housings are typically located in the carriage V or on the support of reeling rails. Hereinafter, the term actuator VL11 or VL12 will also be used for the force device VL11 or VL12. The reeling axle T1, in turn, is transferred further away from the reeling cylinder C when the reel R grows, i.e. when the radius of the reel R is increased, by moving the carriages V with the force devices VL1 and VL2. When the reeling proceeds, the desired nip load is attained by means of force devices VL1 and VL2, and the carriage V is moved as the thickness of the reel is increased. The reeling carriages V have to be moved in a synchronized manner, which sets special demands for the control circuit and the function of the force devices.

Marked-up version of page 11, first full paragraph as amended.

With reference to Fig. 1, to attain the desired nip load (nip pressure), the reel R is loaded against the reeling cylinder C with a predetermined loading force F1 by affecting the reeling axle T1 by means of force devices VL11 and VL2, hereinafter also called [as] an actuator VL1 or VL2. A loading force F2 is attained in a similar manner by means of force devices VL11 and VL12. The force devices VL1 and VL2, one on each side of the reel R in a similar manner as force devices VL11 and VL12, affect the bearing housings of the reeling axle T1 in a way known as such, which bearing housings are typically located in the carriage V or on the support of reeling rails. Hereinafter, the term actuator VL11 or VL12 will also be used for the force device VL11 or VL12. The reeling axle T1, in turn, is transferred further away from the reeling cylinder C when the reel R grows, i.e. when the radius of the reel R is increased, by moving the carriages V with the force devices VL1 and VL2. When the reeling proceeds, the desired nip load is attained by means of force devices VL1 and VL2, and the carriage V is moved as the thickness of the reel is increased. The reeling carriages V have to be moved in a synchronized manner, which sets special demands for the control circuit and the function of the force devices.


Please amend page 12, first full paragraph , to read as follows:

Fig. 3 shows an embodiment of the slide 4 according to the invention. The slide is supported to a supporting structure 2 by means of guides 41 and 42, which are arranged in such a way that one of them is on the vertical surface of the supporting structure (supporting structure 2 in Fig. 2a) and the other on the upper surface of the same, wherein the force control is optimal. The reel that is being formed weighs tens of tons, and thus the structure has to be very steady and strong. The slide 4 comprises a supporting surface 44 which is, according to the invention, substantially as wide as a fixed rail section 3, which is here pictured close to the slide, even though it is, in fact, further apart. The respective surfaces 45 of the fixed rail section 3 and the supporting structure 44 of the slide have such a shape that when the slide is brought in contact with the fixed rail section, a connective seam section 45' is formed, extending at least a length substantially in the direction of the rail, which connective seam section 45' can also lie in a particular angle with respect to the fixed rail section. Fig. 2b shows a partial view of a second embodiment of the connective seam 45'. Fig. 2b also shows end damping elements 45'' such as rubbers, for softening the connective action. The slide 4 has such a shape that the supporting surface comprises a camber 46 in the end by the reeling cylinder.

Marked-up version of page 12, first full paragraph , as amended.

Fig. 3 shows an embodiment of the slide 4 according to the invention. The slide is supported to a supporting structure 2 by means of guides 41 and 42, which are arranged in such a way that one of them is on the vertical surface of the supporting structure (supporting structure 2 in Fig. 2a) and the other on the upper surface of the same, wherein the force control is optimal. The reel that is being formed weighs tens of [tonnes] tons, and thus the structure has to be very steady and strong. The slide 4 comprises a supporting surface 44 which is, according to the invention, substantially as wide as a fixed rail section 3, which is here pictured close to the slide, even though it is, in fact, further apart. The respective surfaces 45 of the fixed rail section 3 and the supporting structure 44 of the slide have such a shape that when the slide is brought in contact with the fixed rail section, a connective seam section 45' is formed, extending at least a length substantially in the direction of the rail, which connective seam section 45' can also lie in a particular angle with respect to the fixed rail section. Fig. 2b shows a partial view of a second embodiment of the connective seam 45'. Fig. 2b also shows end damping elements 45" such as rubbers, for softening the connective action. The slide 4 has such a shape that the supporting surface comprises a camber 46 in the end by the reeling cylinder.

Please amend page 13, second full paragraph , to read as follows:

The slide is arranged movable on linear guides 41 and 42, which can support the mass of the entire machine reel. The slide is provided with e.g. an pressurized air cylinder control 43, by means of which it can e.g. be restored to the initial position (to the front) for a new reel spool. The supporting surface of the reeling slide 4 can also be placed in an angle, which is e.g. 1° to 3° , wherein part of the linear load is produced with the mass of the reel spool itself. The path of motion of the slide is arranged in such a way that it is sufficient for the reeling of a maximum size machine reel. The slide can also be arranged to be supported with one guide.

Marked-up version of page 13, second full paragraph , as amended.

The slide is arranged movable on linear guides 41 and 42, which can support the mass of the entire machine reel. The slide is provided with e.g. an pressurized air cylinder control 43, by means of which it can e.g. be restored to the initial position (to the front) for a new reel spool. The supporting surface of the reeling slide 4 can also be placed in an angle, which is e.g. [1] 1° to 3° , wherein part of the linear load is produced with the mass of the reel spool itself. The path of motion of the slide is arranged in such a way that it is sufficient for the reeling of a maximum size machine reel. The slide can also be arranged to be supported with one guide.

Please amend page 14, first full paragraph bridging page 15, to read as follows:

According to Fig. 4a., the reel formed during the reeling accumulates, wherein the reel spool and the roll are moved with respect to the reeling cylinder 31 according to the need. Here, the transfer of the reel is described, but it is also possible to move the reeling cylinder 31, wherein an auxiliary nip is formed with a pressing roll 34. According to the invention, the pressing roll 34 is coupled to the reeling carriage to be moved in a synchronized manner, and it is advantageously directly attached to the reeling carriage or to a member 37, such as a supporting bar or the like, located in connection with the same. It should be understood that both ends of the reel (front side and driving side) are provided with similar kinds of solutions. The pressing roll 34 is arranged to be movable in a supporting bar 37, wherein it can perform a linear motion. The motion of the pressing roll and its loading against the reel is effected by means of a force device 35, which can be a hydraulic cylinder or a corresponding cylinder. The method of driving the reel-up according to Figs. 4a to 4e, is implemented in the following way. Primarily, it is essential that the arrangement 33 supporting the reel at least during the change, such as a reeling carriage or the like, is driven to the vicinity of the reeling cylinder substantially immediately after the reel change, wherein the "home station" of the reeling carriages and the pressing device, advantageously a roll attached thereto, is in the front in the vicinity of the reeling cylinder substantially immediately after the reel change, wherein the "home station" of the reeling carriages and the pressing device, advantageously a roll attached thereto, is in the front in the vicinity of the reeling cylinder. According to Fig 4b, the pressing roll supported to the reeling carriage at the change situation is driven into nip contact with the reel by means of the force device 35. When the change has been conducted, and the full reel is

05
at least mainly stopped (wherein the auxiliary nip on the roll 34 can be opened), the controllers and/or locking jaws 36 of the reeling carriage are lowered down, and the reeling carriage and thereby also the pressing roll are driven to the vicinity of the reeling cylinder according to Fig. 4c. At the same time, the reeling is already in process, e.g. by means of an initial reeling device 32. Here, the initial reeling device is arranged to be turnable in the vicinity of the reeling cylinder, but it can also be a device functioning primarily in linear motion and carrying the reel spool "downwards from an upper position". The reeling is effected for a suitable period of time on the support of the initial reeling device according to Fig. 4c, and during this time the reeling carriage with its pressing rolls is driven to the vicinity of the reeling cylinder, wherein the area A between/behind the supporting structures/reel-up is free, and it is possible to move therein without being hampered by the mechanisms of the pressing roll and the reeling carriage. In a situation according to Fig. 4d, the support as well as the loading of the reel are transferred from the initial reeling device 32 to the reeling carriage 33. In Fig. 4d, a new reel spool is also transferred by means of the initial reeling device to the vicinity of the reeling cylinder, and in this situation the reel has also had time to grow. Here, the pressing roll is still detached from the nip contact, but it can be driven in contact with the surface of the reel when necessary by means of the force device 35. It is possible to use a so-called brush pressing device 40 to form the auxiliary nip, which is shown in Figs. 4a to 4e. Figs. 4a to 4e show a method according to the invention applied in connection with the supporting surface 44 and the slide 4 according to the invention, wherein the situation in the transfer of the slide 4 shown in Fig. 4e, precedes the situation of Fig. 4c, so that a new reel spool could now be lowered with the initial reeling device onto supporting surface 44, and the reeling could be continued for a while by means of the initial reeling device. It is obvious that the method according to the invention can also

be applied in connection with a reel-up according to Fig. 1, equipped with a continuous rail-like rolling surface K2.

Marked-up version of page 14, first full paragraph bridging page 15, as amended.

According to Fig. 4a., the reel formed during the reeling accumulates, wherein the reel spool and the roll are moved with respect to the reeling cylinder 31 according to the need. Here, the transfer of the reel is described, but it is also possible to move the reeling cylinder 31, wherein an auxiliary nip [34] is formed with a pressing roll 34. According to the invention, the pressing roll 34 is coupled to the reeling carriage to be moved in a synchronized manner, and it is advantageously directly attached to the reeling carriage or to a member 37, such as a supporting bar or the like, located in connection with the same. It should be understood that both ends of the reel (front side and driving side) are provided with similar kinds of solutions. The pressing roll 34 is arranged to be movable in a supporting bar 37, wherein it can perform a linear motion. The motion of the pressing roll and its loading against the reel is effected by means of a force device 35, which can be a hydraulic cylinder or a corresponding cylinder. The method of driving the reel-up according to Figs. 4a to 4e, is implemented in the following way. Primarily, it is essential that the arrangement 33 supporting the reel at least during the change, such as a reeling carriage or the like, is driven to the vicinity of the reeling cylinder substantially immediately after the reel change, wherein the "home station" of the reeling carriages and the pressing device, advantageously a roll attached thereto, is in the front in the vicinity of the reeling cylinder substantially immediately after the reel change, wherein the "home station" of the reeling carriages and the pressing device, advantageously a roll attached thereto, is in the front in the vicinity of the reeling cylinder. According to Fig 4b, the pressing roll supported to the reeling carriage at the change situation is driven into nip contact with the reel by means of the force device 35. When the change has been conducted, and the full reel is

at least mainly stopped (wherein the auxiliary nip on the roll 34 can be opened), the controllers and/or locking jaws 36 of the reeling carriage are lowered down, and the reeling carriage and thereby also the pressing roll are driven to the vicinity of the reeling cylinder according to Fig. 4c. At the same time, the reeling is already in process, e.g. by means of an initial reeling device 32. Here, the initial reeling device is arranged to be turnable in the vicinity of the reeling cylinder, but it can also be a device functioning primarily in linear motion and carrying the reel spool "downwards from an upper position". The reeling is effected for a suitable period of time on the support of the initial reeling device according to Fig. 4c, and during this time the reeling carriage with its pressing rolls is driven to the vicinity of the reeling cylinder, wherein the area A between/behind the supporting structures/reel-up is free, and it is possible to move therein without being hampered by the mechanisms of the pressing roll and the reeling carriage. In a situation according to Fig. 4d, the support as well as the loading of the reel are transferred from the initial reeling device 32 to the reeling carriage 33. In Fig. 4d, a new reel spool is also transferred by means of the initial reeling device to the vicinity of the reeling cylinder, and in this situation the reel has also had time to grow. Here, the pressing roll is still detached from the nip contact, but it can be driven in contact with the surface of the reel when necessary by means of the force device 35. [Instead of the roll 34 it is also] It is possible to use a so-called brush pressing device [35] 40 to form the auxiliary nip, which is shown in Figs. 4a to 4e. Figs. 4a to 4e show a method according to the invention applied in connection with the supporting surface 44 and the slide 4 according to the invention, wherein the situation in the transfer of the slide 4 shown in Fig. 4e, precedes the situation of Fig. 4c, so that a new reel spool could now be lowered with the initial reeling device onto supporting surface 44, and the reeling could be continued for a while by means of the initial reeling device. It is obvious that

the method according to the invention can also be applied in connection with a reel-up according to Fig. 1, equipped with a continuous rail-like rolling surface K2.